

WHAT IS CLAIMED IS:

1 1. A graft comprising:
2 a graft body section having a proximal end, a distal end, and defining at least
3 one inflatable porous channel; and
4 an inflation medium including at least one therapeutic agent configured to be
5 introduced into the inflatable channel.

1 2. The graft of claim 1 wherein the agent is capable of being transported
2 from the inflation medium through a wall of the porous channel and released into a body
3 lumen.

1 3. The graft of claim 2 wherein the agent is configured to be released into
2 the body lumen from a luminal or abluminal surface of the graft body section.

1 4. The graft of claim 2 wherein the porous channel has varying levels of
2 porosity.

1 5. The graft of claim 2 wherein the graft body section comprises one or
2 more materials selected from the group consisting of a fluoropolymer, a
3 polyethyleneterephthalate, a polyvinylchloride, a polyurethane, a polyolefin, and a
4 polyamide.

1 6. The graft of claim 2 wherein the graft body section comprises
2 expanded or perforated polytetrafluoroethylene.

1 7. The graft of claim 2 wherein a quantity of the agent releasable into the
2 body lumen ranges from about 10 micrograms to about 100 milligrams.

1 8. The graft of claim 2 wherein the therapeutic agent is configured to be
2 transported into the body lumen in a time period ranging from about seven days to about
3 twelve months.

1 9. The graft of claim 2 wherein the at least one therapeutic agent
2 comprises one or more agents selected from the group consisting of an endothelialization
3 promoting agent, an angiogenesis promoting agent, an anti-thrombotic agent, an anti-

4 aneurysmal agent, an anti-infection agent, an anti-inflammatory agent, an anti-restenosis
5 agent, a chemotherapeutic agent, and an anti-cancer agent.

1 10. The graft of claim 2 wherein the inflation medium comprises a
2 therapeutic agent-carrying host polymer.

1 11. The graft of claim 10 wherein the therapeutic agent is capable of being
2 released by diffusion through the host polymer.

1 12. The graft of claim 10 wherein the therapeutic agent is capable of being
2 released by degradation of the host polymer.

1 13. The graft of claim 10 wherein the graft body section comprises
2 biocompatible material capable of inhibiting transport of a bulk of the host polymer.

1 14. The graft of claim 10 wherein the host polymer is capable of being
2 introduced into the inflatable channel before, during, or after graft deployment or
3 implantation.

1 15. The graft of claim 10 wherein the host polymer comprises one more
2 materials selected from the group comprising polyethylene glycol, polyethylene glycol
3 diacrylate, ethoxylated trimethylolpropane triacrylate, pluronic polyoxymers, acrylamide,
4 polyethylene oxide, polypropylene oxide, polyvinyl alcohol, polyethylene-co-vinyl alcohol,
5 polyacrylic acid, polyethylene-co-acrylic acid, polyethyloxazoline, polyvinyl pyrrolidone,
6 polyethylene-co-vinyl pyrrolidone, polymaleic acid, polyethylene-co-maleic acid,
7 polyacrylamide, and polyethylene oxide-co-polypropylene oxide.

1 16. The graft of claim 1 wherein the inflation medium comprises a liquid.

1 17. The graft of claim 1 wherein the inflation medium comprises a curable
2 liquid.

1 18. The graft of claim 17 wherein the inflation medium has a cure time
2 ranging from about three minutes to about twenty minutes and a post-cure elastic modulus
3 ranging from about 50 psi to about 400 psi.

1 19. The graft of claim 1 wherein the channel comprises one or more
2 features selected from the group consisting of helical spirals, longitudinal channels, and
3 circumferential rings.

1 20. The graft of claim 1 further comprising at least one inflatable porous
2 cuff disposed at the proximal or distal end of the graft body section and in fluid
3 communication with the at least one channel.

1 21. A graft comprising:
2 a graft body section having a proximal end, a distal end, and defining at least
3 one inflatable porous channel therebetween;
4 a connector member affixed to the proximal or distal end of the graft body
5 section, the connector member comprising one or more connector elements;
6 a stent comprising one more proximal stent connector elements coupled to the
7 one or more connector member connector elements; and
8 an inflation medium including at least one therapeutic agent configured to be
9 introduced into the inflatable channel.

1 22. A method for delivering a therapeutic agent, said method comprising:
2 providing an graft body section having a proximal end, a distal end, and
3 defining at least one inflatable porous channel;
4 implanting the graft body in a body lumen; and
5 inflating the porous channel with an inflation medium including at least one
6 therapeutic agent.

1 23. The method of claim 22 wherein the porous channel is inflated before,
2 during, or after graft deployment or implantation.

1 24. The method of claim 22 further comprising transporting the therapeutic
2 agent from the inflation medium through the porous channel and releasing the agent into the
3 body lumen.

1 25. The method of claim 24 further comprising releasing the therapeutic
2 agent into the body lumen from a luminal or abluminal surface of the graft body section.

- 1 26. The method of claim 24 wherein the porous channel comprises
2 expanded or perforated polytetrafluoroethylene having varying levels of porosity.
- 1 27. The method of claim 24 wherein the inflation medium comprises a
2 therapeutic agent-carrying host polymer.
- 1 28. The method of claim 27 further comprising releasing the therapeutic
2 agent by diffusion through the host polymer.
- 1 29. The method of claim 27 further comprising releasing the therapeutic
2 agent by degradation of the host polymer.
- 1 30. The method of claim 27 wherein the graft body section inhibits
2 transport of a bulk of the host polymer.
- 1 31. The method of claim 27 wherein the host polymer comprises
2 polyethylene glycol that is injected as a liquid.
- 1 32. The method of claim 31 wherein the inflation medium has a cure time
2 ranging from about three minutes to about twenty minutes and a post-cure elastic modulus
3 ranging from about 50 psi to about 400 psi.
- 1 33. The method of claim 22 wherein the at least one therapeutic agent
2 comprises one or more agents selected from the group consisting of an endothelialization
3 promoting agent, an angiogenesis promoting agent, an anti-thrombotic agent, an anti-
4 aneurysmal agent, an anti-infection agent, an anti-inflammatory agent, an anti-restenosis
5 agent, a chemotherapeutic agent, and an anti-cancer agent.
- 1 34. The method of claim 22 further comprising releasing the therapeutic
2 agent into the body lumen in a time period ranging from about seven days to about twelve
3 months. .
- 1 35. A kit comprising:
2 a graft; and
3 instructions on how to implant and inflate the graft for delivery of a
4 therapeutic agent according to any one of claims 22-34.